AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Claims 1-10 (cancelled)

Claim 11 (currently amended): A multilayer optical article comprising:

a first substrate;

a second substrate;

a third substrate;

a reflective layer disposed between the first substrate and the third substrate;

a first layer of partially cured adherent, wherein the first layer of partially cured adherent is disposed between a first surface of the first substrate and the second substrate; and

a second layer of partially cured adherent, wherein the second layer of partially cured adherent is disposed between a second surface of the first substrate and the third substrate, wherein the first and second adherent comprise a photopolymer such that the article is capable of storing data in a holographic data storage system, and wherein the multilayer optical article has a surface flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers, wherein a first layer bounded by a first surface of the first substrate and a first surface of the second substrate and a second layer bounded by a first surface of the first substrate and a first layer of the third substrate each have a transmission flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers.

Claim 12 (original): The multilayer article of claim 11, wherein the substrates are made from glass, silicon, polycarbonate, polymethylmethacrylate, acrylic, polyolefin or any combination thereof.

Claim 13 (original): The multilayer article of claim 11, wherein the substrates have at least one hole for dispensing an adherent through the substrate.

Claim 14 (original): The multilayer article of claim 11, wherein the geometric form of the substrates may be square, rectangular, circular, or oval.

Claim 15 (original): The multilayer article of claim 11, wherein the substrates are about 25 micrometers to about 3 millimeters in thickness.

Claim 16 (original): The multilayer article of claim 11, wherein the outer surface of the first or second or third substrates contain surface relief patterns.

Claim 17 (original): The multilayer article of claim 11, wherein one or both of the surfaces of the first or second or third substrate contain a surface relief pattern or a diffractive grating.

Claim 18 (original): The multilayer article of claim 11, wherein the adherent is cured utilizing thermal or radiation energy.

Claim 19 (original): The multilayer article of claim 11, wherein the article has a Strehl value of 0.9 or greater.

Claims 20-39 (cancelled)

Claim 40 (original): A multilayer reflective holographic storage system comprising:

a first substrate with a first and second surface, wherein the first surface is optically reflective

a second substrate;

a third substrate;

a first layer of partially cured adherent, wherein the first layer of partially cured adherent is disposed between the first surface of the first substrate and the second substrate; and

a second layer of partially cured adherent, wherein the second layer of partially cured adherent is disposed between the second surface of the first substrate and the third substrate,

wherein the first and second adherent comprise a photopolymer such that the article is capable of storing data in a reflective holographic data storage system, and wherein the multilayer storage system has a surface flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers, wherein a multilayer bounded by the first surface of the first substrate and the first surface of the second substrate and a multilayer bounded by the first surface of the first substrate and the first layer of the third substrate each have a transmission flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers.

Claim 41 (original): The multilayer article of claim 40, wherein the substrates are made from glass, silicon, polycarbonate, polymethylmethacrylate, acrylic, polyolefin or any combination thereof.

Claim 42 (original): The multilayer article of claim 40, wherein the substrates have at least one hole for dispensing an adherent through the substrate.

Claim 43 (original): The multilayer article of claim 40, wherein the geometric form of the substrates may be square, rectangular, circular, or oval.

Claim 44 (original): The multilayer article of claim 40, wherein the substrates are about 25 micrometers to about 3 millimeters in thickness.

Claim 45 (original): The multilayer article of claim 40, wherein the outer surface of the first or second or third substrates contain surface relief patterns.

Claim 46 (original): The multilayer article of claim 40, wherein the inner surface of the first or second or third substrate contain a surface relief pattern or a diffractive grating.

Claim 47 (original): The multilayer article of claim 40, wherein the adherent is cured utilizing thermal or radiation energy.

Claim 48 (original): The multilayer article of claim 40, wherein the article has a Strehl value of 0.9 or greater.

Claim 49 (cancelled)

Claim 50 (previously presented): The multilayer article of claim 11, wherein the reflective layer is disposed adjacent the first surface or the second surface of the first substrate.

Claim 51 (previously presented): The multilayer article of claim 11, wherein the reflective layer includes at least one of aluminum, gold, and copper.

Claim 52 (previously presented): The multilayer article of claim 40, wherein the first surface of the first substrate includes a reflective layer.

Claim 53 (previously presented): The multilayer article of claim 52, wherein the reflective layer includes at least one of aluminum, gold, and copper.